Case 3291

DROMIIDAE Bonelli, 1810 (Insecta, Coleoptera, Caraboidea): proposed emendment of spelling to DROMIUSIDAE to remove homonymy with DROMIIDAE De Haan, 1833 (Crustacea, Decapoda, Brachyura, Dromiacea)

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Abstract. The purpose of this application, under Articles 29 and 55 of the Code, is to remove the homonymy between the beetle family name DROMIIDAE Bonelli, 1810 (type genus *Dromius* Bonelli, 1810) and the decapod family name DROMIIDAE De Haan, 1833 (type genus *Dromia* Weber, 1795). It is proposed that the entire generic name of *Dromius* should be adopted as the stem, so that the correct spelling of the beetle family name will be DROMIUSIDAE Bonelli, 1810.

Keywords. Nomenclature; taxonomy; Insecta; Coleoptera; Crustacea; Brachyura; Caraboidea; Podotremata; HARPALIDAE; LEBIINAE; DROMIINA; DROMIACEA; DROMIIDAE; DROMIUSIDAE; *Dromius*; *Dromia*.

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1. The family-group taxon DROMIINA Bonelli, 1810 (Insecta, Coleoptera, Caraboidea, HARPALIDAE, LEBIINAE) was proposed by Bonelli in 1810 in an annexed and unnumbered sheet which, according to some authors (particularly Andrewes, 1919), did not satisfy the criteria for publication prescribed in the Code. Bonelli published in 1810 a small opuscule of 52 pages: '*Observations entomologiques*', to which he added a synoptic table ('*Tabula synoptica*'). Numerous family-group taxa (including 'Dromiei') were established in this table, and the question was whether this *Tabula* complied with the criteria for publication in the Code. Was the table always included in the issues of '*Observations entomologiques*' that were sold? In other words, was the table actually published?

From the nineteenth to the beginning of the twentieth century, some authors ignored Bonelli's work and either created a new family-group taxon based on the

genus *Dromius* (e.g. Hope, 1838), or attributed to another author than Bonelli such a taxon (e.g. Csiki, 1932). On the other hand, Bonelli's supra-generic classification was known and utilized by most nineteenth century authors.

Andrewes (1919) regarded Bonelli's supra-generic taxa as unavailable, since they had not been properly published, but were known only from Bonelli's reprints that were subsequently distributed. Jeannel, in his introduction to his '*Faune de France*' (1941–1942), was strongly opposed to this view and supported the idea that the '*Tabula synoptica*' had been properly published and diffused. As a result, he kept Bonelli's supra-generic taxa, such as 'Dromiitae'.

Gaskin & Lewis (1956) published a facsimile of Bonelli's synoptic table and concluded that it had been properly published in 1810. Basilewsky (1969), who seemed not to have known Gaskin & Lewis's work, discussed the problem, and similarly concluded that the table satisfied the Code's criteria for valid publication. This is an important problem since the main family-group taxa used for carabid coleopterans were established in Bonelli's work.

The case was brought to the Commission by Mroczkowski (1977) who proposed that Bonelli's *Tabula synoptica* be placed on the Official List of Works Approved as Available for Zoological Nomenclature. Mroczkowski, who did not cite the works of Jeannel and Basilewsky, considered that Bonelli's supra-generic taxa were not published according to the Code and, as a result, he requested the Commission to use its plenary power to rule that they had been published (he mistakenly gave 1811 as the synoptic table's publication date).

In response to the request for validation, Madge (1978) supported the view that the '*Tabula synoptica*' was published according to the Code in 1810. He concluded that validation by the Commission was not necessary, but that the taxa in question should be included in the Official List. In the same year, Holthuis (1978) supported Madge's argument, while Mroczkowski (1978) reiterated his conclusion on the non-publication of Bonelli's '*Tabula synoptica*'. The Commission approved as available Bonelli's (1810) work, placing it on the Official List (Opinion 1226, September 1982). 'Dromiei' Bonelli, 1810 is therefore an available family-group taxon.

Hope (1838, p. 63) designated *Carabus quadrimaculatus* Linnaeus, 1758 (p. 416) as the type species of *Dromius* Bonelli, 1810.

2. The crustacean genus *Dromia* was introduced into the literature in the *Nomenclator entomologicus* (Weber, 1795). Weber was the first author who subdivided the large genus *Cancer* Linnaeus, 1758 by recognizing several crab genera. Although Weber's publication constitutes validly published available names, the same generic names were published a little later by Fabricius in his *Supplementum Entomologiae Systematicae* (1798). Both Weber and Fabricius used the same material in the Kiel Museum, with the manuscript notes of the naturalist Daldorff, who in the 1790s had collected many insects and crustaceans from India and Sumatra without publishing his own results (see Fransen et al., 1997). Consequently, the same latinized carcinological names were proposed in both Weber's and Fabricius's works, in the same order and with the same spelling. Weber's names are the oldest available names applied to these carcinological taxa. However, the *Nomenclator entomologicus* of Weber (1795), termed a 'miserable little book' by Holthuis (1959), was overlooked completely for more than 150 years in Europe, and Fabricius was considered the author who had published for the first time in 1798 all the generic taxa in question.

Dromia personata (Linnaeus, 1758), type species of the genus *Dromia* Weber, 1795, with the characteristic dromiid 'human face' depicted on the carapace, male, Marseille, submarine cave (MNHN-B 11198). Scale: 1 cm. (Photograph by L. Albenga, Muséum national d'Histoire naturelle, Paris).

This was the cause of much confusion and many nomenclatural problems. The majority of carcinologists refer to Fabricius as the author of the name *Dromia*, from Cuvier (1798) and H. Milne Edwards (1837) until the fundamental works of Bouvier (1896), Alcock (1900), Sakai (1936; 1976), and Barnard (1950).

Alerted by Sherborn (1902, p. 312), Rathbun (1904) drew attention to the booklet by Weber. This is the reason why, in the American publications (Rathbun, 1937), the author of *Dromia* is given as Weber (1795), and not Fabricius (1798). Following several nomenclatural acts proposed to the Commission by L.B. Holthuis, the question of authorship has been resolved in most cases. As a result, the nominal genus *Dromia* is credited to Weber. *Dromia* Weber, 1795 was placed on the Official List (Opinion 688, March 1964), with type species *Cancer personatus* Linnaeus, 1758 as proposed by Holthuis (1962, p. 55) and designated by the Commission (Opinion 688, 1964, BZN **21**: 14). The 'Dromies' constitutes a particular group already in Latreille (1803) and H. Milne Edwards (1832). In the Crustacea volume of his monumental *Fauna Japonica*, published in several parts (livraisons) from 1833 until 1850 (see Holthuis, 1954), De Haan mentioned in his *Praemissa* (1833, p. 102) the family-group name DROMIACEA, under this Latin spelling. In 1839, 1849 and 1850, De Haan presented the components of his 'Decapodum Brachygnathorum Familia Tertia', and clearly explained that the DROMIACEA correspond to the 'Anomoures Apterures Dromiens and Homoliens' of H. Milne Edwards. Meanwhile, H. Milne

Edwards (1837) had created in his section of Anomoures, with a long diagnosis, the tribe DROMIENS, composed of the two genera *Dromia* and *Dynomene*, separating them from the two other tribes, the HOMOLIENS and the RANINIENS (that correspond to the current concept). De Haan included in the DROMIACEA four genera, *Dromia*, *Dynomene*, *Homola* and *Latreillia*, all characterized by having the posterior legs in the dorsal position. The DROMIACEA of De Haan correspond in a large part to the Notopodes of Latreille (1817, p. 13). Ortmann (1892) emended the names of Dana (1852): DROMIDEA to DROMIIDEA, and DROMIDAE to DROMIIDAE. The carcinological family DROMIIDAE, with *Dromia* Weber, 1795 as type genus, was placed on the Official List (Holthuis, 1962; BZN, Opinion 688, March 1964). In conclusion, all the family-group names for crustaceans based on *Dromia* must be attributed to De Haan, 1833.

3. Under Article 55.3.1 the replacement of the junior homonym would lead to the maintenance of DROMIINA Bonelli, 1810 (Insecta, Coleoptera) and to replace DROMIIDAE De Haan, 1833 (Crustacea, Brachyura) by emending its stem issued from 'DROMIACEA' De Haan, 1833 based on *Dromia* Weber, 1795 (stem *Dromi-*). Such an emendment would cause nomenclatural problems, because numerous brachyuran taxa have their name based on the stem *Dromi-*. The DROMIACEA, with representatives which are known from the Jurassic, constitutes either a subsection of the Podotremata Guinot, 1977 (see Guinot, 1978; Guinot & Tavares, 2003) or one of the two major sections (e.g. the group opposed to the assemblage Heterotremata-Thoracotremata Guinot, 1977) forming the Brachyura (see Martin & Davis, 2001). Within the DROMIACEA, the HOMOLODROMIIDAE is a family that is close to the DROMIIDAE, and the stem HOMOLODROMI- would not be emended. The family HOMOLODROMIIDAE, which consists of two genera, named *Homolodromia* and *Dicranodromia*, is probably the most primitive in the Brachyura, hence its importance for phylogenetic studies. To promote stability, and in attempting to be consistent, it seems preferable to emend neither DROMIIDAE nor HOMOLODROMIIDAE, for lack of being able to emend both. In addition, the family DROMIIDAE includes about thirty extant genera, the taxonomic names of which are based on the same stem. These names were formed either long ago (such as *Pseudodromia* Stimpson, 1858, *Dromidia* Stimpson, 1858) or more recently by McLay (1993) (such as *Fultodromia* or *Frodromia*) or by Guinot & Tavares (2003) (such as *Lamarckdromia*). No available replacement name exists for the family DROMIIDAE De Haan, 1833. In brief, any modification of the name DROMIIDAE would cause considerable confusion in both the classical and modern carcinological nomenclature as well as in both the taxonomic and non-taxonomic literature, even in the popular zoological handbooks where the dromiids or 'sponge crabs' form a well-known group.

4. The International Commission on Zoological Nomenclature is accordingly asked:

(1) to use its plenary power to rule that for the purposes of Article 29 of the Code the stem of the generic name *Dromius* Bonelli, 1810 is DROMIUS-;

(2) to place on the Official List of Generic Names in Zoology the name *Dromius* Bonelli, 1810 (gender: masculine), type species by subsequent designation by Hope (1838) *Carabus quadrimaculatus* Linnaeus, 1758 (Coleoptera);

(3) to place on the Official List of Specific Names in Zoology the name *quadrimaculatus* Linnaeus, 1758, as published in the binomen *Carabus*

quadrimaculatus, the specific name of the type species of *Dromius* Bonelli, 1810 (Coleoptera);

(4) to place on the Official List of Family-Group Names in Zoology the name DROMIUSIDAE Bonelli, 1810, type genus *Dromius* Bonelli, 1810 (spelling emended by the ruling in (1) above) (Coleoptera);

(5) to place on the Official Index of Rejected and Invalid Family-Group Names in Zoology the name DROMIIDAE Bonelli, 1810 (an incorrect original spelling of DROMIUSIDAE, as ruled in (1) above) (Coleoptera).

Acknowledgements

For their helpful comments we are very grateful to W.J. Bock (Columbia University, Department of Biological Sciences, New York), C. and J.-F. Voisin (Muséum national d'Histoire naturelle, Paris), and M.P. Walters (The Natural History Museum, Tring, U.K.). A draft of this manuscript was reviewed by M. Judson (Muséum national d'Histoire naturelle, Paris) and P. Castro (California State Polytechnic University, U.S.A.).

References

Alcock, A.W. 1900. Materials for a carcinological fauna of India. No. 5. Brachyura Primigenia or Dromiacea. *Journal of the Asiatic Society of Bengal*, **68**(2): 123–169.

Andrewes, H.E. 1919. Note on Bonelli's 'Tableau Synoptique'. *Transactions of the Royal Entomological Society of London*, **52**: 89–92.

Barnard, K.H. 1950. Descriptive catalogue of South African Decapod Crustacea. *Annals of the South African Museum*, **38**: 1–837.

Basilewsky, P. 1969. Sur la validité des taxa génériques créés par F.A. Bonelli. *Memorie della Societa Entomologica Italiana*, **48**: 138–146.

Bonelli, F.A. 1810. *Observations entomologiques*. Première Partie, *tabula synoptica*. 52 pp. Torino.

Bouvier, E.-L. 1896. Sur l'origine homarienne des Crabes: étude comparative des Dromiacés vivants et fossiles. *Bulletin de la Société philomathique*, Paris, **8**(2): 34–110.

Csiki, E. 1932. *Pars 124. Harpalinae VII.* Pp. 1279–1598 *in*: *Coleopterorum Catalogus*. W. Junk, Berlin.

Cuvier, G. 1798. *Tableau élémentaire de l'histoire naturelle des animaux*. 16, 710 pp., 14 pls. Baudouin, Paris.

Dana, J.D. 1852. Crustacea. Vol. 13, part 1. 8, 685 pp. *United States Exploring Expedition during the years 1838, 1839, 1840, 1841, 1842 under the command of Charles Wilkes, U.S.N.* Sherman, Philadelphia.

De Haan, W. 1833, 1839, 1849, 1850. Crustacea, *in* Siebold, P.F. von, *Fauna Japonica sive Descriptio Animalium, quae in Itinere per Japoniam, Jussu et Auspiciis Superiorum, qui Summun in India Batava Imperium Tenent, Suscepto, Annis 1823–1830 Collegit, Notis, Observationibus e Adumbrationibus Illustravit*. Lugduni-Batavorum (Leiden). 1833, fasc. 1, Praemissa et Expositio: ix-xvi, 1–24, pl. 1–8, A, B, circ. 2; 1839, fasc. 4: 73–108, pl. 25–32, G, H; 1849 (Praefatio), fasc. 6 et 7: 165–243, i-xxxi; 1850, fasc. 8 (Commentatio): vii-xvii.

Fabricius, J.C. 1798. *Supplementum Entomologiae Systematicae*. 572, 53 pp. Proft & Storch, Hafniae.

Fransen, C.H.J.M., Holthuis, L.B. & Adema, J.P.H.M. 1997. Type-catalogue of the Decapod Crustacea in the collections of the Nationaal Natuurhistorisch Museum, with appendices of pre-1900 collectors and material, *Zoologische Verhandlingen* (Leiden) (311): 16, 344 pp.

Gaskin, L.J.P. & Lewis, E. 1956. On the 'Tabula Synoptica' and the 'Observations Entomologiques' of F.A. Bonelli. *Journal of the Society for the Bibliography of Natural History*, **3**: 158–164, facsimile.

Guinot, D. 1978. Principes d'une classification évolutive des Crustacés Décapodes Brachyoures. *Bulletin Biologique de la France et de la Belgique*, (n.s.)**112**(3): 211–292.

Guinot, D. & Tavares, M. 2003. A new subfamilial arrangement for the Dromiidae de Haan, 1833, with diagnoses and description of new genera and species (Crustacea, Decapoda, Brachyura). *Zoosystema*, **25**(1): 43–129.

Holthuis, L.B. 1954. On the dates of publication of W. de Haan's volume on the Crustacea of P.F. von Siebold's 'Fauna Japonica'. *Journal of the Society for the Bibliography of Natural History*, **3**(1): 36–47.

Holthuis, L.B. 1959. Notes on pre-Linnean Carcinology (including the study of *Xiphosura*) of the Malay Archipelago, *in* De Wit, H.C., *Rumphius Memorial Volume*, Chapter 5: 63–125.

Holthuis, L.B. 1962. *Dromia* Weber, 1795 (Crustacea, Decapoda): proposed designation of a type-species under the plenary powers. *Bulletin of Zoological Nomenclature*, **19**(1): 51–57.

Holthuis, L.B. 1978. Comment on the proposed use of the plenary powers to rule that Bonelli's 'Tabula Synoptica' (1811) is published. *Bulletin of Zoological Nomenclature*, **34**: 201.

Hope, F.W. 1838. *The coleopterist's manual. Part the Second, containing the predaceous land and water beetles of Linneus and Fabricius*. 16, 168 pp., 3 pls. H.G. Bohn, London.

Jeannel, R. 1941–1942. Coléoptères Carabiques (première et deuxième partie). *Faune de France*, **39–40**: 1–1173.

Latreille, P.A. 1803. *Histoire naturelle, générale et particulière, des Crustacés et des Insectes. Ouvrage faisant suite aux Œuvres de Leclerc de Buffon, et partie du Cours complet d'Histoire naturelle rédigé par C.S. Sonnini, membre de plusieurs Sociétés savantes.* Vol. 5, 407 pp. Vol. 6, 391 pp. Dufart, Paris.

Latreille, P.A. 1817. Les Crustacés, Les Arachnides et les Insectes, *in* Cuvier, G., *Le Règne Animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée.* Première edition, vol. 3. 29, 653 pp. Déterville, Paris.

Linnaeus, C. 1758. *Systema Naturae*, Ed. 10, vol. 1. 824 pp. Salvii, Holmiae.

Madge, R.B. 1978. Comment on the proposed addition of Bonelli's Tabula Synoptica to the Official List. *Bulletin of Zoological Nomenclature*, **35**: 9–12.

Martin, J.W. & Davis, G.E. 2001. *An updated classification of the Recent Crustacea*. Natural History Museum of Los Angeles County, Science series, **39**: 1–124.

McLay, C.L. 1993. Crustacea Decapoda: The Sponge Crabs (Dromiidae) of New Caledonia and the Philippines with a review of the genera. *In* Crosnier, A. (Ed.), Résultats des Campagnes Musorstom, Volume 10. *Mémoires du Muséum national d'Histoire naturelle*, **156**: 111–251.

Milne Edwards, H. 1832. Recherches sur l'organisation et la classification naturelle des Crustacés Décapodes. *Annales des Sciences Naturelles*, **25**: 298–332.

Milne Edwards, H. 1837. Les Crustacés, *in* Cuvier, G. *Le Règne Animal distribué d'après son organisation, pour servir de base à l'histoire naturelle des animaux et d'introduction à l'anatomie comparée*. 4e edition, 17. 278 pp. Atlas, pl. 1–80. Librairie Encyclopédique de Roret, Paris.

Mroczkowski, M. 1977. Bonelli, F.A., 'Tabula Synoptica, 1811' proposed addition to the Official List. *Bulletin of Zoological Nomenclature*, **34**: 61–62.

Mroczkowski, M. 1978. [Reply]. *In*: Comment on the proposed use of the plenary powers to rule that Bonelli's 'Tabula Synoptica' (1811) is published. *Bulletin of Zoological Nomenclature*, **34**: 201–202.

Ortmann, A.E. 1892. Die Decapoden-Krebse des Strassburger Museums, mit besonderer Berücksichtigung der von Herrn Dr. Döderlein bei Japan und bei den Liu-Kiu-Inseln gesammelten und z. Z. im Strassburger Museum aufbewahrten Formen. V. Theil. Die Abtheilungen Hippidea, Dromiidea und Oxystomata. *Zoologischer Jahrbücher (Systematik)*, **6**: 532–588.

Rathbun, M.J. 1904. Some changes in Crustacean nomenclature. *Proceedings of the Biological Society of Washington*, **17**: 169–172.

Rathbun, M.J. 1937. The oxystomatous and allied crabs of America. *Bulletin of the United States National Museum*, **166**: 1–272.

Sakai, T. 1936. Studies on the Crabs of Japan. I. Dromiacea. *Science Reports of the Tokyo Bunrika Daigaku*, **B3** (suppl. 1): 1–66.

Sakai, T. 1976. *Crabs of Japan and the Adjacent Seas*. 3 vols. Kodansha, Tokyo.

Sherborn, C.D. 1902. *Index Animalium*. 1195 pp. Cambridge.

Stimpson, W. 1858. Prodromus descriptionis animalium evertebratorum, quae in expeditione and Oceanum Pacificum Septentrionalem, a Republica Federata missa, Cadwaladaro Ringgold et Johanne Rodgers Ducibus, observavit et descripsit, Pars VII. Crustacea Anomoura. *Proceedings of the Academy of Natural Science of Philadelphia*, **10**(4): 225–252.

Weber, F. 1795. *Nomenclator entomologicus secundum Entomologiam systematicam ill. Frabricii adjectis speciebus recens detectis et varietatibus*. 8, 171 pp. Carolum Ernestum Bohn, Chilonii et Hamburgi.

Acknowledgement of receipt of this application was published in BZN **60**: 261.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., The Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).